

Immunogenicity of Infectious Coryza vaccine against a native isolate of *Avibacterium paragallinarum* from Iran

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Abstract

Infectious Coryza (IC) an acute respiratory disease of chicken that caused by *Avibacterium Paragallinarum* (*Av.P*). Immunity offered by a commercial IC killed oil vaccine gainst a native field isolate of Av. P serogroup A of Iran was studied by designing a vaccination/challenge experiment. 36 SPF birds of 14 weeks old were randomly divided into three separate groups. One group was vaccinated by two doses within 2 weeks by a commercial vaccine. After two weeks of last vaccination, this group and the second one were challenged with 1×10^8 CFU/ml bacterial suspension prepared from fresh 24 hours cultured of *Av. p* through infraorbital sinus. The third group kept as the control only received phosphate buffer saline. Three birds from each group were bled for serum sample collection on days of 2, 4, 6 and 8 after challenge. On Clinical observation of the first group, mild swelling on inoculation site was developed on the second day of the experiment that gradually disappeared on days after. In the second group on post-infection day (PID) of 2, nasal discharge and facial swelling that extended to become bilateral beside tracheal rales were noticed in all bird throughout the experiments days. For all birds Sero-conversions monitored by serum plate agglutination (SPA) and agar gel precipitation (AGP) test using antigen prepared from 24 hours culture of bacterium. While birds of control remained negative, All bird of the first group shown positive serum reaction by SPA and AGP tests while in the second group, only SPA becomes positive after 6 PID. In conclusion, this native isolate has an antigenic relationship with vaccine contained strains and the commercial vaccine can prevent must clinical sign in infected birds. However, more studies needed to verify serovar identity of isolate and reach a conclusive outcomes about the efficacy of currently used vaccine in country.

Key world: Infectious Coryza, Avibacterium, Paragallinrum, Iran

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